REMARKS

This paper is responsive to an Office Action dated March 1, 2005. Prior to this amendment claims 1-59 were pending. After amending claims 1, 4, 6-8, 13-14, 16, 20, 24, 27, 32-34, 37-38, 40, 45-46, 48, 51, 54-55, and 58, and canceling claims 2-3, 21-23, 28-31, 36, 52-53, and 56-57, claims 1, 4-20, 24-27, 32-35, 37-51, 54-55, and 58-59 remain pending.

In Section 2 of the Office Action states that the Applicant's Declaration does not identify the foreign application from which priority is claimed. In response, the Applicant notes that no claim to priority is being made. 37 CFR 1.63(c)(2) states that a declaration must identify any foreign application for which a claim to priority is made under 37 CFR 1.55. However, no claim of priority is being made and the Applicant is unaware of any requirement to include a foreign or domestic priority section in a Declaration, if no priority is actually being claimed. The Applicant is willing to have a replacement Declaration prepared, however, if the event that that Applicant has misunderstood the requirements of 37 CFR 1.63.

In Section 3 of the Office Action states that claims 2-18 are objected to because of informalities in claim 2. In response, the article "a" has been change to --the--, as suggested. The subject matter of claim 2 has been incorporated into claim 1.

Section 5 of the Office Action states that claims 1-18 and 33-50 have been rejected under 35 U.S.C. 112, second paragraph, as indefinite. The comments made in Section (a) are now moot due to other amendments made to claim 1.

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In response to the comments made in Section (b), the subject matter of claim 2 (now in claim 1) has been amended to recite "[[the]] a plurality of spread spectrum..."

In response to the comments made in Section (c), claims 6 and 38 have been amended to recite "[[the]] a master device frequency hopping..."

With respect to claims 7 and 39, and the comments made in Section (d), antecedent basis can be found in claims 5 and 37, respectively, for receiving the first downlink FHS packet.

In response to the comments made in Section (e), claims 8 and 40 have been amended to recite "[[the]] an inquiring device BD_addr". Claims 12 and 44 are dependent from claims 8 and 40, respectively.

In response to the comments made concerning claims 9 and 41 in Section (f), there is antecedent basis for the phrase "the master device BD_addr" in claims 6 and 38, respectively.

With respect to claims 10 and 42, and the comments made in Section (g), antecedent basis can be found in claims 5 and 37, respectively, for receiving the first downlink FHS packet.

With respect to the comments made in Section (h), claims 13 and 45 have been amended to recite "[[the]] a receiving of the second downlink FHS packet" and "[[the]] a receipt of the AM_addr".

In response to the comments made in Section (i), claims 14 and 46 have been amended to recite "[[the]] a receiving of an ID packet".

With respect to the comments made concerning claims 16 and 48 in Section (j), there is antecedent basis for "the first downlink FHS packet in claims 7 and 39, respectively. There is also antecedent basis for "the second downlink FHS packet" in claims 10 and 42. Claims 16 and 48

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have been amended to recite "[[the]] a slot", and claim 16 has been amended to recite ""[[the]] a contention period".

In Section 7 the Office Action, claims 1-2, 19, and 33-34 have been rejected as unpatentable under 35 U.S.C. 103(a) with respect to Lee (US Pub. 2002/0045424), in view of Zyren (US Patent 6,377,608). With respect to claims 1 and 33 the Office Action acknowledges that Lee does not describe the monitoring of a piconet beacon frequency. The Office Action states that Zyren teaches such monitoring and that it would have been obvious to use the beacon monitoring function of Zyren, with the motivation "being that a node in an ad hoc network radio, such as an FHSS radio, is able to monitor whether it is in close proximity to an infrastructure network, as taught by Zyren."

In response, claim 1 has been amended to include the subject matter of claim 3 (now canceled), and claim 33 has been amended to include the subject matter of claim 36 (now canceled). These amendments should overcome the rejections made in Section 7 of the Office Action with respect to claims 1, 19, and 33-34.

In Section 8 of the Office Action claims 3-6 and 35-38 have been rejected under 35 U.S.C. 103(a) as unpatentable with respect to Lee, in view of Zyren, as in Section 7, and further in view of Haartsen (US 6,754,250). The Office Action states that Haartsen discloses a master device broadcasting its BD_addr and CLK information via a piconet beacon frequency, and that this limitation, in combination with Lee and Zyren, makes the claimed invention obvious. This rejection is traversed as follows.

An invention is unpatentable if the differences between it and the prior art would have been obvious at the time of the invention. As

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stated in MPEP § 2143, there are three requirements to establish a *prima facie* case of obviousness.

> First, there must be some suggestion or
> motivation, either in the references themselves or in the
> knowledge generally available to one of ordinary skill in the
> art, to modify the reference or to combine reference
> teachings. Second, there must be a reasonable expectation of
> success. Finally, the prior art reference (or references when
> combined) must teach or suggest all the claim limitations.
> The teaching or suggestion to make the claimed combination
> and reasonable expectation of success must both be found in
> the prior art and not based on applicant's disclosure. *In re*
> *Vaeck* 947 F.2d 488, 20 USPQ2d, 1438 (Fed. Cir. 1991).

Lee, in paragraphs [0012] and [0013], describes a gateway that transmits a beacon signal to Bluetooth devices for locating a Bluetooth device [0012] and confirming a piconet to which a Bluetooth device belongs [0013]. Further details of the beacon signal are given in [0050], where it states that the gateway transmits a beacon signal to each Bluetooth device to confirm the nearest access point (AP). The beacon signal contains a Receiver Signal Strength Indicator (RSSI). Each Bluetooth unit is able to receive RSSI from four different APs [0060]. In response to RSSI measurement, the Bluetooth unit communicates with the nearest AP, which is assumed to be the AP with the strongest RSSI measurement [0062].

Generally, Zyren is concerned with avoiding interference between a wireless infrastructure network (i.e., Bluetooth) and an ad-hoc network. An ad-hoc node periodically monitors beacon signals in unused portions of the infrastructure ISM band to determine if it is in close proximity to an infrastructure network (col. 1, ln. 59, through col. 2, ln. 39).

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Haartsen, at col. 4, ln. 55, through col. 5, ln. 3, describes the conventional operation of synchronizing a slave to a Bluetooth piconet, noting that the FH channel sequence is determined by the address of the master device. The system clock of the master determines the phase of the hopping sequence.

With respect to the first *prima facie* requirement, the combination of Haartsen with Zyren must suggest some modification to Lee that makes the claimed invention obvious. Prior art references cannot be combined for the purposes of an obviousness analysis on the basis of a retrospective-looking desire to combine different subject matters or limitations. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion of motivation in the references to do so." *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990). Here, the analysis must determine if there is any motivation, supplied by Zyren and Haartsen, to modify Lee's system in such way as to make obvious the claimed invention's use of a beacon that transmits the master device's BD_addr and CLK information.

Lee describes a beacon signal whose strength (RSSI) can be measured by Bluetooth units. Neither Zyren's infrastructure warning beacon, nor Haartsen's explanation of how the master's BD_addr is used in hop synchronization, suggests that Lee's beacon be modified to supply BD_addr and CLK information. While Lee's beacon may enable a Bluetooth unit to select the closest AP, Lee does not describe any changes the conventional acquisition procedure. Zyren and Haartsen don't even address the process of acquiring a piconet. One fundamental difference between the prior art and the claimed invention stems from the fact that

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the claimed invention beacon is part of a novel process that permits a Bluetooth unit to acquire a piconet with a significantly fewer number of steps. The claimed invention beacon acts as a "shortcut" in the process of a slave joining a piconet, bypassing convention inquiry steps and providing the information needed for a slave to synchronize hopping frequencies.

Considered from a different perspective, there is no reasonable expectation of success in the combination of prior art references, which is the second *prima facie* requirement. Even if an expert were given Lee's RSSI beacon, Zyren avoidance beacon, and Haartsen's explanation of FH synchronization as a foundation, it is unlikely that this expert would derive the claimed invention beacon. This is because none of the references appreciate that the information needed for a slave to synchronize itself with a piconet can be supplied as a beacon.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee and Zyren describe simple beacons, whose only attribute is signal strength. Haartsen addresses the uses of the BD_addr and CLK, but never describes the possibility of broadcasting this information as a beacon. The claimed invention does not describe a novel synchronization process, but a shortcut in the synchronization process that supplies information in a beacon, which is conventionally obtained through inquiries initiated by a slave. Therefore, the combination of references does not explicitly describe every limitation of claims 1 and 33. Neither are the claim limitations of claims 1 and 33 suggested by the combination of references. Claims 4-6, dependent from

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claim 1, and claims 35 and 37-38, dependent from claim 33, enjoy the same distinctions from the cited prior art, and the Applicant respectfully requests that the rejection be withdrawn.

In Section 9 of the Office Action claims 7-8 and 39-40 are rejected under 35 U.S.C. 103(a) as unpatentable over Lee and Zyren, and further in view of Haartsen (US 6,519,460). The Office Action states that Haartsen '460 describes the limitation of a first uplink FHS packet sent from an inquiring device in response to a piconet beacon, and that the combination of references makes the claimed invention obvious. This rejection is traversed as follows.

At col. 4, ln. 35-42, Haartsen '460 describes a FH link transmitting and receiving packets. However, no mention in made in Haartsen '460 of a piconet beacon. More specifically, no mention is made of an inquiring device transmitting an FHS packet uplink in response to a piconet beacon transmitting a FHS packet downlink (in the beacon).

With respect to the first *prima facie* requirement, neither Zyren's infrastructure warning beacon, nor Haartsen '460's explanation of FH link packet transmissions, suggests that Lee's beacon be modified to supply a beacon with a FHS downlink packet, including the BD_addr and CLK information. With respect to the second *prima facie* requirement, Lee's RSSI beacon, Zyren avoidance beacon, and Haartsen '460's explanation of FH link packet transmissions would not provide a foundation to reasonably derive the claimed invention piconet beacon with BD_addr and CLK information. As noted above, none of the references appreciates that this information can be broadcast in a beacon.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed

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invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee and Zyren describe simple beacons, whose only attribute is signal strength. Haartsen '460 merely describes a conventional FH link. Therefore, the combination of references does not explicitly describe every limitation of claims 1 and 33. Neither are the claim limitations of claims 1 and 33 suggested by the combination of references. Claims 7·8, dependent from claim 1, and claims 39·40, dependent from claim 33, enjoy the same distinctions from the cited prior art, and the Applicant respectfully requests that the rejection be withdrawn.

In Section 10 of the Office Action claims 20, 22, and 51·52 have been rejected under 35 U.S.C. 103(a) as unpatentable over Lee and Zyren, and further in view of Haartsen (US 6,519,460). The Office Action states that Haartsen '460 describes the limitation of receiving a first uplink FHS packet from an inquiring device in response to a piconet beacon, and that the combination of references makes the claimed invention obvious. Claim 20 has been amended to include the subject matter of claim 23, which has been found acceptable. With respect to claims 51, this rejection is traversed as follows.

At col. 4, ln. 35·42, Haartsen '460 describes a FH link transmitting and receiving packets. However, no mention in made in Haartsen '460 of a piconet beacon. More specifically, no mention is made of an inquiring device transmitting an FHS packet uplink in response to a piconet beacon transmitting a FHS packet downlink (in the beacon). At col. 5, ln. 15·20, Haartsen describes a packet format with an access code that may be derived from the identity of the master.

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With respect to the first *prima facie* requirement, neither Zyren's infrastructure warning beacon, nor Haartsen '460's explanation of a FH link packet transmission or access code, suggests that Lee's beacon be modified to supply a beacon with a FHS downlink packet including the BD_addr and CLK information. With respect to the second *prima facie* requirement, Lee's RSSI beacon, Zyren avoidance beacon, and Haartsen '460's explanation of FH link packet transmissions and access codes would not provide a foundation to reasonably derive the claimed invention piconet beacon with BD_addr and CLK information.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee and Zyren describe simple beacons, whose only attribute is signal strength. Haartsen '460 merely describes a FH link and an access code, without any reference to broadcast beacon. Therefore, the combination of references does not explicitly describe every limitation of claim 51 (as amended to include the subject matter of claim 53). Neither are the claim limitations of claim 51 suggested by the combination of references. The Applicant respectfully requests that the rejection be withdrawn.

In Section 11 of the Office Action claims 21 and 53-54 are rejected under 35 U.S.C. 103(a) as unpatentable over Lee and Haartsen '460, and further in view of Haartsen '250. The Office Action states that Haartsen '460 and Haartsen '250 describe the claim limitations of a piconet beacon broadcasting a BD_addr and CLK information, and of a slave device receiving the piconet beacon, and that the combination of

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references makes the claimed invention obvious. This rejection is traversed as follows.

Haartsen '250, at col. 4, ln. 55, through col. 5, ln. 3, describes the conventional operation of a Bluetooth piconet, noting that the FH channel sequence is completely determined by the address of the master device. The system clock of the master determines the phase of the hopping sequence. At col. 9, ln. 50-55. Haartsen '250 describes a "park mode" where slave units monitor a beacon signal broadcast by an anchor unit. The beacon signal is a low duty cycle signal. However, no mention in made in Haartsen '250 of a piconet beacon that transmits a master unit BD_addr and CLK information.

With respect to the first *prima facie* requirement, neither Haartsen '250's explanation of a park mode beacon, or the use of BD_addr to acquire the hop sequence, suggests that Lee's beacon be modified to supply a piconet beacon with the BD_addr and CLK information. With respect to the second *prima facie* requirement, Lee's RSSI beacon, Haartsen's park mode beacon, and Haartsen '460's explanation of FH link packet transmissions would not provide a foundation to reasonably derive the claimed invention piconet beacon that supplies a master device BD_addr and CLK information.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee describes a simple beacon, whose only attribute is signal strength. Haartsen '460 merely describes a conventional FH link. Haartsen '250 describes a park mode beacon. No mention is made of using this beacon to acquire a piconet. Neither is

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there mention made of the park mode beacon including a BD_addr and CLK information. Therefore, the combination of references does not explicitly describe every limitation of claim 51. Neither are the claim limitations of claims 51 suggested by the combination of references. Claim 54, dependent from claim 51, enjoys the same distinctions from the cited prior art, and the Applicant respectfully requests that the rejection be withdrawn.

In Section 12 of the Office Action claims 27, 30, 55, and 59 are rejected under 35 U.S.C. 103(a) as unpatentable over Lee and Zyren, and further in view of Haartsen '460. The Office Action states that Haartsen '460 describes the claim limitations of a FHS packet being received from an inquiring device in response to a piconet beacon broadcasting a BD_addr and CLK information, and that the combination of references makes the claimed invention obvious. This rejection is traversed as follows.

With respect to the first *prima facie* requirement, as noted above, none of the above-mentioned references suggest that Lee's beacon be modified to supply a piconet beacon with the BD_addr and CLK information. With respect to the second *prima facie* requirement, the combination of references would not provide a foundation to reasonably derive the claimed invention piconet beacon.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee describes a simple beacon, whose only attribute is signal strength. Zyren describes an avoidance beacon and Haartsen '460 merely describes a conventional FH link.

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Therefore, the combination of references does not explicitly describe every limitation of claims 27 and 55, as amended. Neither are the claim limitations of claims 27 and 55 suggested by the combination of references. Claim 59, dependent from claim 55, enjoys the same distinctions from the cited prior art, and the Applicant respectfully requests that the rejection be withdrawn.

In Section 13 of the Office Action claims 28-29 and 56-58 are rejected under 35 U.S.C. 103(a) as unpatentable over Lee and Zyren, and further in view of Haartsen '460 and Haartsen '250. The Office Action states that Haartsen '460 describes the claim limitations of an inquiring device receiving a piconet beacon broadcast with a BD_addr and CLK information, and that the combination of references makes the claimed invention obvious. This rejection is traversed as follows.

With respect to the first *prima facie* requirement, as noted above, none of the above-mentioned references suggest that Lee's beacon be modified to supply a piconet beacon with the BD_addr and CLK information. With respect to the second *prima facie* requirement, the combination of references would not provide a foundation to reasonably derive the claimed invention piconet beacon.

With respect to the third *prima facie* requirement, the combination of references does not describe all the elements of the claimed invention. The claimed invention recites a beacon that includes a master's BD_addr and CLK information. Lee describes a simple beacon, whose only attribute is signal strength. Zyren describes an avoidance beacon and Haartsen '460 merely describes a conventional FH link. Haartsen '250 describes a park mode beacon. No mention is made of using this beacon to acquire a piconet. Neither is there mention made of

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the park mode beacon including a BD_addr and CLK information.

Therefore, the combination of references does not explicitly describe every

limitation of claim 55. Neither are the claim limitations of claim 55

suggested by the combination of references. Claim 58, dependent from

claim 55, enjoys the same distinctions from the cited prior art, and the

Applicant respectfully requests that the rejection be withdrawn.

Section 14 of the Office Action states that claims 23-26 and

31-32 would be found allowable if rewritten in independent form,

including the subject matter of the base and intervening claims. In

response, claim 20 has been amended to include the subject matter of

claims 21-23, now canceled. Claims 24-26, dependent from claim 20,

should now be found allowable. Claim 27 has been amended to include

the subject matter of claims 28-31, now canceled. Claim 32, dependent
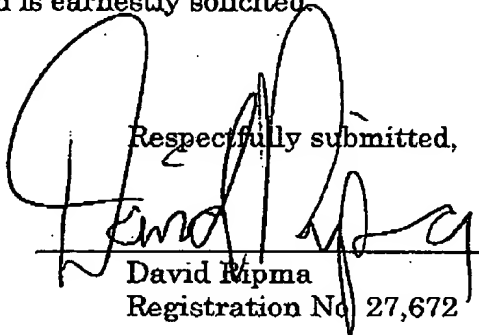
from claim 27, should now be allowable.

Section 14 of the Office Action also states that claims 9-18

and 41-50 would be found allowable if rewritten in independent form, to

overcome the 35 U.S.C. 112, second paragraph, rejections, and including

the subject matter of the base and intervening claims.

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It is believed that the application is in condition for

allowance and reconsideration is earnestly solicited.

Respectfully submitted,

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